DISCUSSION DRAFT MAY 1, 2006

Recommended Four-Month Plan for EJ Analysis of Principle #3

Prepared for MCAC by Urban Habitat Program

The purpose of analyzing environmental justice for purposes of Principles 3 and 4 is to ensure that minority and low-income communities enjoy equally in the benefits of transportation planning and funding (Principle #3), without bearing a disproportionate share of the burdens associated with it (Principle #4). See 2001 RTP Equity Analysis, page 1-1; 2004 RTP Equity Analysis, page ES-1.

Given the Commission's direction that an analysis pursuant to Principle #2 be completed in four months, it may only be possible to perform a first approximation. This proposal for that first approximation, while far from comprehensive, can be completed within the requested timeframe, and in some respects builds upon analyses that MTC has conducted in the past. However, it must be kept in mind that this first approximation, because of extensive aggregation and averaging, will understate the full extent of inequity.

Basic Framework

An equity analysis entails two key components. First, because it is a comparative analysis, the identifiable minority or low-income populations (communities of concern) need to be identified. Second, the equity analysis compares those populations with counterpart populations in terms of various dimensions of equity. The two steps are described below:

1. Identifiable Populations: Equity must be analyzed for each identifiable population that includes a disproportionate share of minority or low-income residents. There are several communities of concern in addition to the geographical "communities of concern," defined in MTC's Equity Analysis as geographic communities with at least 70% minorities or 30% low-income, or both. These other, non-geographic, communities of concern that are identifiable and likely to satisfy these same numeric threshholds include transit-dependent individuals and riders of transit operators that have disproportionately minority or low-income riderships.

As a first step, staff should determine which of these three populations meets the communities of concern threshholds in each county, either because it is comprised of disproportionate numbers of minority individuals, or low-income individiduals, or both.

2. Dimensions of Inequity: For each relevant community or population of concern, equity should be analyzed in three dimensions: inputs (funding), outputs (the service that is delivered with that funding) and outcomes (the relative mobility and accessibility of low-income and minority families).

The range of potential analyses is represented in the attached grid. Each cell in the grid (for instance, Cell #4 analyzes the transit-dependent population with respect to funding

inputs) represents a separate analysis that must ultimately be performed in a comprehensive manner. If the analysis in any of the nine cells shows inequity, corrective action should be taken.

As indicated in the list of MTC's prior EJ analyses (distributed at April 11, 2006 MCAC meeting), MTC has limited its analyses in the past to one population—geographic communities of concern (based on Traffic Analysis Zones, or TAZs)—and to one of three dimensions of equity—equity in terms of outcomes (as measured by the number of destinations that can be reached from communities of concern within 30 to 60 minutes by transit and by auto). (Cell #3 in the grid.) However, in its effort to measure these mobility and accessibility outcomes, MTC has found it necessary to distinguish between the levels attained by auto and by transit, a proxy for a full-fledged analysis of equity for transit-dependent populations.

This proposal recommends four relatively simple analyses, corresponding to four of the nine cells on the grid. Due to time and data constraints, simplified analyses that are likely to understate the extent of inequity are proposed at this time. A complete analysis of equity for each identifiable population of concern with respect to each dimension of equity should be undertaken in the near future.

Funding (Inputs) Analyses

At the April 11 MCAC meeting, staff proposed to conduct a funding analysis (inputs). Staff is proposing as its "definition of equity" for the allocation of funding "that MTC should spend at least as much per capita on transportation projects that benefit" minority and low-income populations versus all other populations. Staff has further proposed to look backward over a 5-10 year timeframe. The staff proposal to analyze inputs as one of several essential components of the analysis is appropriate, as is the proposed "definition of equity" with respect to funding inputs as dollars per person. A 20-year retrospective timeframe seems most appropriate, due to the fact that some funding, especially for large capital projects, tends to be lumped in certain years, rather than spread out evenly.

The particular analysis staff has proposed, however, would address only one of at least three disproportionately minority and low-income populations: it would "compare transportation funds that are spent in identified communities of concern versus those spent outside communities of concern," defining those communities geographically. (Cell #1 on the grid.) In limiting its proposal to this geographic population, however, staff has identified a serious practical obstacle: how to assign benefits to projects with regional impacts as between communities of concern and other communities. This appears to be a very significant problem, since there does not seem to be any objective methodology for apportioning the estimated benefits of many of the investments that MTC makes on the basis of the geographic borderline between one neighborhood and another.

That obstacle can be significantly reduced, if not eliminated, if the funding analysis is conducted with respect to each of the two other disproportionately minority and low-

income populations of concern—transit-dependent residents, and riderships of individual transit operators with unusually high proportions of minority/low-income riders.

Funding Analysis #1: For **transit-dependent residents**—those that have no car available to them—an analysis of funding per capita, or dollars per person (compared to dollars per person for residents with a car) should be made, County by County, for each County in which Census data shows that the transit-dependent population is more heavily minority or low-income than the population as a whole. (Cell # 4 on the grid.) This would entail apportioning the benefit of various categories of transportation spending (bridges and highways, local streets and roads, transit, etc.) among the two populations. This is a far simpler task than the one proposed by staff, and will yield more meaningful results, in a format like this:

Categories of funds	Total Dollars spent in the County in a given year in each category		Benefit per Transit-Dependent person	Benefit per person with car
Bridges/Highways				
Local Streets and Roads				
Transit				
Total			$X per person	$Y per person

The bottom line would provide an estimated total expenditure per transit-dependent person compared to the estimated expenditure per person with a car.

Funding Analysis #2: For **riderships of individual transit operators**, a separate analysis should be made that shows the relative demographics (by race/ethnicity and income) and dollars per rider for each transit operator. (Cell # 7 on the grid.) This analysis should include both capital funds and operating funds over at least a 20-year period (e.g., FY 1985-FY 2004), and should be broken out separately where a single operator runs different transit modes (e.g., rail, bus, ferry), to the extent that separate demographic data is available for the ridership of each mode.

Outputs and Outcomes Analyses

Analyzing equity with respect to inputs (funding) is just one of three dimensions in which equity should be measured. Two further analyses can be easily made, building upon analyses that MTC has already conducted in the past. Again, these are not ideal, but may be useful as a first approximation, until a comprehensive analysis of equity can be performed.

Analysis of Outputs: The 2001 Lifeline Transportation Network study measured temporal and spatial gaps in identified Lifeline routes for each of the region's transit operators. (Cell #8 on the grid.) Since 2001, transit operators have cut some service, and

added other service. At the April 11 MCAC meeting, an updated analysis of these gaps was requested, and Mr. Kimsey indicated it could be performed. The proposal is that this analysis be updated in order to determine (a) whether gaps have increased more, and (b) whether gaps have been filled less, for disproportionately minority or low-income riderships than for other riderships. This analysis should be conducted individually for each of the region's transit operators. Where a single operator runs different transit modes (e.g., rail, bus, ferry), those modes should be analyzed separately, to the extent that separate demographic data is available for the ridership of each.

Analysis of Outcomes: In MTC's Equity Analyses of the 2001 and 2005 Regional Transportation Plans, it attempted to measure whether the proposed 25-year investments would increase or decrease mobility and accessibility for residents of geographic communities of concern. To do this, MTC compared the number of jobs that could be reached within 30, 60, etc. minutes by auto and by transit from each TAZ. It assumed that existing service would not be cut, but only augmented over time. MCAC expressed serious misgivings with this methodology. As MCAC noted in its December 10, 2004, Comments on the Transportation 2030 Equity Analysis Report, "critical variables may have been left out of the analysis that would lead to different conclusions."

The results of the previous equity analysis could be made somewhat more meaningful by taking the next logical step in the analysis. (Cell #3 on the grid.) In order to perform MTC's previous Equity Analysis, staff calculated the "outcome" (jobs accessible by auto and by transit) for each TAZ. Staff's analysis also categorized each TAZ as to whether it fell within or outside of a community of concern. Each TAZ has a known share of transit-dependent households, per the census data reported in the Equity Analysis.

Using this data, the analysis would calculate a composite "outcome" for each TAZ: the total number of jobs accessible from that TAZ by auto times the percentage of households with an auto, plus the total number of jobs accessible from that TAZ by transit times the share of vehicle-less households. The resulting composite outcomes for each TAZ can then be mapped, and an average of the composite outcomes for geographic communities of concern can be compared to the average composite for the rest of the region.

Additional Data Collection

While the four analyses proposed above can be performed with available data, staff's memo correctly recognizes that additional data will need to be collected in order to conduct a more comprehensive set of analyses in the future. Staff notes that "one obvious data gap is the lack of consistent data being collected for the race/ethnicity and income profiles for all transit users in the Bay Area." Consistent data should also be collected by operators to reflect rates of transit-dependency among transit riders.

Other obvious data gaps were raised in connection with the PPIC/MTC affordability study, Transportation Spending by Low-Income California Households, which relied on statewide, rather than Bay Area data, and therefore reached inaccurate conclusions

(including the unwarranted conclusion that "cost is unlikely to be a barrier to transit use for most low-income households").

Grid of Possible Equity Analyses

	←	**Equity Impacts**	→
Populations/ Communities of Concern	*Inputs (Funding)*	*Outputs (Service)*	*Outcomes (Mobility/Accessibility)*
Geographic Communities of Concern (vs. other communities)	**Cell #1** [MTC Staff proposal of 4-11-06]	**Cell #2**	**Cell #3** [MTC's Equity Analyses of 2001 and 2005 RTPs] **PROPOSED ADDITIONAL ANALYSIS**
Transit dependent individuals (vs. individuals with a car)	**Cell #4** **PROPOSED NEW ANALYSIS #1**	**Cell #5**	**Cell #6**
Riderships of individual transit operators (disproportionately minority/low-income vs. others)	**Cell #7** **PROPOSED NEW ANALYSIS #2**	**Cell #8** [2001 Lifeline Transp. Network Study] **PROPOSED ADDITIONAL ANALYSIS**	**Cell #9**